

# Are performances in Governance Indicators Complementary to Corruption Abatement?: A Cross-Country Analysis

**Kamal Ray**

*Department of Economics, Katwa College, West Bengal, India*

**Ramesh Chandra Das**

*Department of Economics, Katwa College, West Bengal, India*

*Corresponding Author:*

## Abstract

*Private use of public office for private gain could be a tentative connotation of corruption and most distasteful event of corruption is that it is not there, nor that it is pervasive, but it is socially acknowledged in the global economy, especially in the developing nations. In the present paper we attempt to assess the interrelationship between the Corruption perception index (CPI) and the principal components of governance indicators as per World Bank Governance Indicators like Control of Corruption (CC), Rule of Law (RL), Regulatory Quality (RQ) and Government Effectiveness (GE). Applying Granger Causality Test the study observes a mixed or inconclusive result. Only bilateral causal link between the CPI and CC works for UK, whereas there are unilateral causal links between the CPI and one or more governance indicators working for other countries for France, Japan, China, India, Thailand and South Africa. In no way causalities are observed for USA, Germany and Brazil.*

**Key Words:** CPI, Governance indicators, Granger Causality, Correlation, Regression

**JEL classification:** G21, G 32

## Introduction

Private use of public office for rent seeking could be a tentative definition of corruption and most distasteful event of corruption is that it is not there, nor that it is pervasive, but it is socially acknowledged in the global economy, especially in the developing nations. It is not a newly emerged social crisis because it already remained since long back as mentioned by Kautilya in his Arthashastra, 2000 years back. But its anatomy and morphology have changed over the years because of the applications new technologies and resurgence of counter software, and gradually it has been linked to the market that directly affects nation's growth and development. Today's ongoing worldwide debate on the burden of social cost of corruptions at micro and macro level prioritized in the forefront so far as growth and

development are concerned. It matters much to both domestic and foreign investors so far as a large number of government clearances at the cost of sizeable bribes are concerned. Foreign investors from developed nations often face tremendous difficulty to adjust them as degree of corruption is relatively high due to lax governance. Countries experiencing chronic poverty seem to be natural breeding center points for systematic corruption. Corruption might not directly cause poverty; rather corruption has direct consequences on economic and governance factors, intermediaries that in turn produce poverty. A common man has to participate in the corruption-oriented activities because there is no other option if he has to get a driving license or a registered deed of his housing property or permission from a public sector office. Politicians do not leave the chance in doing business and they often raise voice to raise the fund in such public scheme, the tragedy of common property to speak of. Administrative system, legislative, judiciary system and part of the media in democratic country are not found responsive or rather ineffective in order to curb even a small profile of corruption since public servants in these institutions are the beneficiaries of corruption – a trade off.

We might think today's ever growing volume of corruption in terms of supply and demand for corruption. The supply of corruption is supposed to be directly proportional to the volume of government-oriented services/activities and it is inversely related to the volume of market-oriented transactions. Public servants are assumed to be the sources of corruption as they often sell their unethical services for their personal gain. The excessive legal protections provided to the public servants are not deniable so far as rising trend of corruption is concerned, for an example, Official Secrets Act (1923) in India. To reduce the supply of corruption the removal of protection of law in favor of corrupt government officials is the only option today. Another component of supply of corruption is the budget provision required to cover election costs when the backdated system of election generates corruption or state-funding to political party causes fiscal deficit. Collection of fund by the political parties during the election, under democratic set up, from the corporate sectors or power brokers is another component of supply of corruption because high dividend has to be paid back to the stakeholders after victory of election. The dividend takes the form of unethical issuance of licenses, registration, and high cost project at unsuitable place which obviously cause inflation due to inefficient project; it raises the volume of subsidy too. It can be explained by corruption led unbearable social cost to the citizens. Another element of supply of corruption is the costs of advertisement in television and newspaper during the election process; an illegal trade-off between part of the media and some of the political parties is a common practice today. It is added that government abstains from releasing market-sensitive decisions or information which reduces market incentive for private investors and hence investment potentiality sound bad.

No doubt, demand for corruption is derived by the degree of need for having public services or services provided by the government and it is true that volume of peoples' demand for public services is directly proportional to the size of the government. So demand for corruption is likely to be reduced in a country with small government as competitions in the big market do not provide any space for bribes. So demand for corruption is expected to be reduced as proportion of market-determined activities/services to the government-sponsored activities is enhanced that never be allowed in the world of developing nations. In the present context, the "retail component" of demand for corruption is inevitably generated as common people require various kinds of permission, licenses in their daily life. Paul (1997) suggested that every fourth person in one of the large cities in India pays bribes when dealing with the agencies such as municipal services, urban development and electricity. The "wholesale component" of demand for corruption is generated by the corporate sectors as they often take advantage of a restrictive practice or price control during issuance of industrial license in control-era too. In some cases, prices at each stage of transactions from factory to retail points are prescribed by the government which generates massive corruption despite the economic reforms in several countries. Government control matters much in the fields of import and foreign exchange transactions. The wholesale demand for corruption has been perhaps reduced after liberalization, but it is not yet eliminated. It is to be added that, in order set up even a medium-sized industrial factory, clearances from governments are essentially required and hence it would obviously be demand-enhancing factor. Industrialists often buy unethical services from the government servants to accelerate the process of manufacturing desired products (or disproportionate profit share). Radical institutional reforms along with the reduction of volume of the government-activities, as far as possible, may be the way to get reduced volume of supply and demand for corruption.

## **Literature Review**

A substantial number of recent studies have examined the relationship between corruption and other macroeconomic or non-economic factors. According to Chetwynd, Chetwynd and Spector (2003), corruption affects poverty by first impacting growth factors, which, in turn, impact poverty levels. The empirical works backed by theoretical framework explain that there is a direct causal link between corruption and economic growth. Corruption factor works as disincentive to FDI, lowering the quality of public infrastructure, decreasing tax revenue, distorting the composition of public infrastructure. Positive association between corruption and income inequality is established empirically. It is also observed in their literature that lower income households (and businesses) pay a higher proportion of their income in bribes than do middle or upper-income households. Studies show that the absence of economic growth (or negative growth) increases poverty. It is convincingly established that corruption influences governance or it weakens capacity of governance which, in turn, weakens political institutions. According to Mauro (1955), in a country where corruption is widespread, a reduction of corruption by, say, 50 percent, can increase growth rate by about 1.5 percentage points. Adeb and Gupta (2002) opined that investment choices are driven by their potential for corruption and illicit gains rather than their contribution to national output or the real rate of return on projects. Friedman, E., Johnson, S., Kaufmann, D., Zoido-Lobaton, P (2000) empirically established that countries with high level of corruption tend to have lower collection of tax revenues to their national incomes. The findings of European Bank for Reconstruction and Development (1999) explore that corruption and anti-competitive practices are the most difficult obstacles to the firms for starting business which were found in a survey of 3000 enterprises across twenty transition economies. Investigation of Guhan and Paul (1997) reveals that vertical integration of corruption at various levels of the government hierarchy is discernable where elected politicians, higher and lower bureaucracy participate. James (2003) investigated that different rankings of competitiveness or business environment incorporate measures of corruption / governance like Transparency International's Corruption Perception Index constructed by World Economic Forum, Transparency International. It focuses factors linked to transparency of the legal/regulatory quality, and how opacity index incorporates poor governance and corruption. The empirical results show that poor governance imposes an increasing burden of uncertainty to the businessmen, construing high unit cost of production, increasing direct cost of bribery, distortion of the types of activities persuaded by private sector which depress private activity, and hence income, employment and growth. Kauffman et al. (1999) suggested that good governance is supplementary to the market-enhancing conditions.

Today corruption is acknowledged to be a key factor in preventing development in large areas of the world and hence a series of projects and tools have been developed to effectively fight against, but it is a difficult framework to assess. Corruption is inherently a difficult reality to measure, where information is scarce and objective data are not usually available. Initial effort is to build corruption-governance-measurement systems were rather fragmentary and inconsistent until 1990s, with lack of reliable and contrastable data. Kaufmann, D. A. Kraay and M. Mastruzzi (2006) opined that corruption assessment started taking place through three broad ways : 1) gathering selected views of stakeholders , including surveys of businesses , public officials, international actors like NGO and multinational agencies , individuals. 2) tracking countries' institutional profiles such as procurement practices, administrative practices, budget management, it did not measure corruption but it has proved to be useful indicator 3) through audits of projects such as financial audits , spending reports, contrast between expected actual outcomes.

Corruption indicators are based on "perception" and hence it is called subjective measurement while scarcity of objective measurement cannot be denied. The gap between subjective and objective corruption indicators is a source of controversy. Absolute objective measurement of corruption is obviously rare event. The subjective indicators may include questions such as "Do you think your government is corrupt"? In contrast, objective perception-based indicators significantly narrow their questions to the real life. Here Bradburn (1983) suggested attitudinal bias arises or personal attitude works in collecting data. Objective measurement models is more accurate like survey responses on corruption in four Latin American counters or surveys of business managers on the bribes paid to twenty-one Easter European and Central Asian nations of late some scientists like Duncan (2006) have tried to build pure objective corruption measurement through innovative tools Golden and Picci (2005) compared spending on public works on diverse regions of Italy, finding out that gaps were much higher in Southern Italy. More sophisticated is the model developed by Olken (2006) where he studied a particular case of infrastructure (road) corruption in Indonesia through the comparison between corruption perception by local individuals and real corruption, measured through reported expenditures on building materials, financial audits and final construction of road.

Most models of subjective measurement are currently based on polls and surveys. Survey may include perception-based questions or experienced-based one. Skeptical studies often confuse – Bangladesh, where very poor corruption rankings have co-existed with impressive economic growth. However, empirical studies have extensively proved a negative correlation between corruption and economic performance, regardless some exceptions of Rigobon (2004). Today research by Acemoglu (2001) has proved that a one standard deviation increase in corruption reduces investment rates by three percentage points and lowers annual growth by one percentage point. Another example of measurement is the data collected by the Economist Intelligence. Now we discuss about past studies on Aggregate Indicators. Beyond subjective and objective indicators, a new generation of corruption and governance indicators appeared in the mid 1990s, composite or aggregate indicators is developed by Kaufmann et al (1999), aggregate indicators have got some advantage over individual indicators. Kaufmann, D., A. Kraay (2007) identified four main benefits from aggregate indicators: 1) it has broader country coverage 2) it provides functional summary from a vast array of individual indicators 3) they reduce measurement error as well as the influences of bias of individual sources 4) calculation of explicit margin of error undertaken. Several indicators are available today; three of them have stood out because of its sophistication and very extensive use among anti-corruption practitioners- 1) Corruption Perception Index published annually by Transparency International, 2) Business Environment and Enterprise Survey (BEEPS) and 3) World Governance Indicators (WGI) since 1996.

With the progress of time Lambsdorff (2006) postulated that Corruption Perception Index (CPI) is an aggregated indicator built by adding a varying set of component measures and CPI is commonly called the “poll of polls” (like exit poll). CPI has revealed as a powerful tool and accepted worldwide. It is constructed from the data collected from various sources, such as World Economic Forum, the Institute of Management Development, Price Waterhouse Coopers, Freedom House, Gallup International; CPI in the current year also includes the random effects if it is happened with respect to previous year. But several criticisms have been raised so far as its inaccuracy, inconsistency are concerned.

Business Environment and Enterprise launched in 1999 and initiative was taken by World Bank after growing consensus on the incident of corruption. Data are gathered for the elaboration of World development Report in 1997 and ongoing World Business Environment Survey, and it is treated as a measure from private-sector view vis a vis quality of governance across 20 nations of Eastern Europe and Central Asia. BEEPS was cost-intensive to build which is concerned to private firms, and provided new inputs for anti-corruption and public-private partnership projects of Hellman (2000). BEEPS estimate a margin of error for several of its questions and therefore, controlling factor in the survey works well. So World Governance Indicators along with CPI and BEEPS are most important indicators used today. WGI is not strictly “corruption” indicator because it measures other factors in order to assess governance “photo” of every country, but it is relevant to the discussion as one of the dimensions captured by the WGI is the 1) control of corruption 2) voice and accountability 3) political stability and absence of violence 4) governance effectiveness 5) regulatory quality 6) rule of law. Francisco (2007) has talked about an extensive history since 1996 when World Bank Institute has produced WGI through a box containing more than 30 data sources in 200 countries. WGI is the aggregated structure which is based on a statistical methodology known as “unobserved components model”. Aggregated indicators are weighted averages; weights represent the precision (exactness) of the individual data sources taken under consideration. As in BEEPS, the unobserved components model allows to control margins of error for every country’s measurement. The margin of error is very useful information because it would make it more accurate.

It is unanimously acknowledged that perception matters in corruption. Moreover everyone also acknowledges that perception is not enough. Real data about actual corruption is a permanent demand from actors involved in corruption and governance issues. The availability, however, of such information is extremely scarce, or simply nonexistent. The correlation for the WGI and the CPI is an extremely high 0.98 (Donchev, 2007).

## Research and Methodology

### Objective of Study

The present paper attempts to assess the interrelationship between the CPI and the principal components of governance indicators like Control of Corruption (CC), regulatory quality (RL) rule of law, regulatory quality (RQ) and government effectiveness (GE)

### Data Source and Methodology

We have collected time series annual data on principal components of governance indicators such as CC, RL, RQ and GE of the selected eleven countries from the year of 1996 to 2012 from World Bank data set. The indices of components of governance indicators vary from -2.5 to +2.5 as per World Bank's method. The government is supposed to be relatively clean as index moves to +2.5 and lax governance corresponds to the value closed to -2.5. The selection of country is made non-randomly or as per our convenience. The countries are USA, UK, France, Germany, Greece, China, India, Japan, Thailand, Brazil, and South Africa. We also collected time series data on Corruption Perception Index (CPI) of the countries mentioned above for the period of 1996 to 2012 from the source of Transparency International. The value of index ranges from 0 to 10 during the time horizon of 1996 to 2012. Clean government takes the value which is very near to 10 whereas corrupt government-index tends to the value 0. Graphical method of simple line diagram against the time series data on CPI is applied for quick view for the relative positions of different trend lines of different nations. The correlation coefficient is enough to assess primarily the degree and direction of association between the variables as we get the numerical data on governance indicators of the selected countries. But correlation does not mean causation. Hence, Granger Causality Test is applied for investigating causal relationships between the variables, cause and effect to speak of by the help of following regression equations:

$$Y_t = \sum_{i=1}^n \alpha_i X_{t-i} + \sum_{j=1}^n \beta_j Y_{t-j} + u_{1t} \dots \dots \dots (1)$$

$$X_t = \sum_{i=1}^n \lambda_i X_{t-i} + \sum_{j=1}^n \delta_j Y_{t-j} + u_{2t} \dots \dots \dots (2)$$

where  $Y_t$  = time series values of the variable Y at period t

$Y_{t-j}$  = .....lag t-j

$X_t$  = time series values of the variable X at period t

$X_{t-i}$  = .....lag t-i

$u_{1t}, u_{2t}$  = normally distributed error terms that are serially independent

$\alpha_i$  = responsiveness of  $Y_t$  with respect to  $X_t$  for  $i^{\text{th}}$  country

$\delta_j$  = ..... $X_t$  with respect to  $Y_t$  for the  $i^{\text{th}}$  country

X variable causes Y if  $\sum \alpha_i = 0$  is rejected or  $\sum \alpha_i \neq 0$  is accepted in equation (1) and  $\sum \delta_j = 0$  is rejected by equation (2). On the other hand, Y causes X when the null hypothesis of  $\sum \alpha_i = 0$  in equation (1) is accepted and  $\sum \delta_j = 0$  in equation (2) is rejected. There will be bidirectional or feedback causality between X and Y if the null hypothesis of  $\sum \alpha_i \neq 0$  is accepted in equation (1) and  $\sum \delta_j \neq 0$  is accepted in equation (2).

As the data cover 17 years, we do not need to check whether all the time series are stationary or not. Linear regression is taken as a tool for quantification of a change in explained variables due to change in explanatory variables.

## Empirical Investigations

Figure 1 shows the trends of CPI of our selected nations. CPI of developed nations is closer to each other at higher stage except Greece during 1996 to 2012 whereas developing nations reveal well distinguishably bad perception about corruption. Japan improved remarkably as it has uptrend. Improvement is noticed in France, but it is very insignificant

to speak of. The trends of USA and Germany are almost horizontal while UK has got downtrend. Downtrend of corruption level in Greece shows that it has tremendously increased in 2012 compared to the initial year of 1996 which is not observed in any other developed nations selected so far. India becomes topper in terms of collecting poor scores of CPI values at least up to 2005, but it has got scanty uptrend over the rest of the period despite the rampant corruption in the public sector in particular. In contrast, UK holds first position up to 2007, and then it is falling that might be explained by the external shocks of massive financial crisis in USA. USA itself could not fight against corruption as the CPI indices are falling after 2011 in spite of its consistent trend up to 2011. The overall picture of developing nations sounds bad so far as CPI is concerned, corruption increases to speak of.

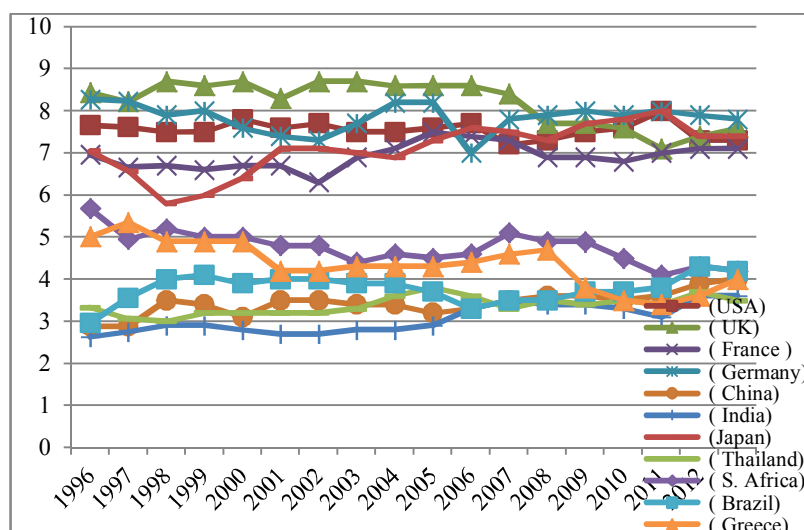


Figure 1: CPI of Countries over time

The degree of association (or correlation coefficients) (Table-1) between CPI and governance indicators and their signs would provide us a primary impression by which we could get a smell how overall CPI gets reflected by the different components of governance indicators of the selected countries.

Table 1: Correlation Coefficients between CPI and Governance Indicators of Countries

	USA	UK	France	Germany	China	India	Japan	Thailand	S. Africa	Brazil	Greece
CC	0.10	<b>0.79</b>	<b>0.60</b>	-0.06	<b>-0.47</b>	-0.21	<b>0.70</b>	-0.43	<b>0.62</b>	0.41	<b>0.76</b>
RL	- 0.17	-0.35	<b>0.55</b>	-0.37	0.18	<b>-0.46</b>	0.02	<b>-0.68</b>	-0.30	0.28	<b>0.72</b>
RQ	0.30	<b>0.52</b>	<b>0.62</b>	-0.39	-0.20	-0.23	<b>0.64</b>	<b>0.45</b>	-0.30	0.26	0.20
GE	0.07	<b>0.83</b>	0.04	0.08	<b>0.66</b>	<b>0.43</b>	<b>0.69</b>	<b>0.60</b>	-0.12	<b>0.55</b>	<b>0.60</b>

Note: The bold figures represent significant correlation result at least at 5% level of significance

The positive association between CPI and CC are expected since CPI is supposed to be enhanced as corruption-controlling institutional machineries of the respective countries become tighten or robust. As per Table-1, UK, France, Japan, S. Africa and Greece show positive association indicating relatively less exercise of public power for private gain. Incidentally, these are all developed nations while developing nation like China shows negative association construing the fact that CPI falls as government-infrastructure for controlling corruption becomes much tighten. The paradoxical result to China explains misuse of official capacities related to CC works in opposite direction in controlling corruption.

Tight RL of a country, consisting of contract, courts, judiciary system as well as activities of police and enforcement departments, directly influence CPI of concerned country. France and Greece are the only countries revealing positive association that implies sound law of the land and its implementation force CPI to rise. In contrast, corruption levels

in India and Thailand are enhanced when RL becomes robust or stringent. Does it imply that exemptions in RL are required for these two countries in order to curb corruption?

Better RQ means market-friendly policies are in force that has a positive impact on CPI so far market-based economics is concerned. The countries like UK, France, Japan and Thailand are showing expected results since there are positive associations between CPI and RQ.

We are able to reach the better empirical-link between CPI and GE out of our four governance indicators. UK, China, India, Japan, Thailand, Brazil and Greece have got positive association between their CPI and GE. In other words, CPI increases as competence of bureaucracy and the quality of public service delivery are pronounced. We have done the causality tests in line with the Granger (1969). The results for Greece are not satisfactory so far as the signs and magnitudes of correlation coefficient are concerned. The values of CPI and all the four governance indicators are of declining trends that are not a good sign for the economy of Greece.

We have presented the Granger Causality Test results in Table 2 and the regression results in Table 3. Since we have not found any causal relation for USA, Germany and Brazil, we have not produced their statistical results into the tables.

**Table 2:** Granger Causality Test Results

Country	Hypothesis	F	P	Remarks
UK	CPI does not cause CC	5.03468	0.04289	↔
	CC does not cause CPI	11.5998	0.0046	↔
	CPI does not Cause GE	0.08504	0.77518	No
	GE does not Cause CPI	9.34044	0.00919	→
France	CPI does not Cause RQ	0.43892	0.51922	No
	RQ does not Cause CPI	3.97351	0.06764	→
China	CPI does not Cause GE	1.43289	0.25267	No
	GE does not Cause CPI	4.54927	0.05257	→
India	CPI does not Cause GE	10.8053	0.00589	→
	GE does not Cause CPI	0.04903	0.82820	No
Japan	CPI does not Cause RQ	0.46481	0.50735	No
	RQ does not Cause CPI	3.43204	0.08678	→
	CPI does not Cause GE	0.55726	0.46865	No
	GE does not Cause CPI	8.4544	0.01223	→
Thailand	CPI does not Cause RL	1.18994	0.29515	No
	RL does not Cause CPI	4.66455	0.05006	→
S. Africa	CPI does not Cause CC	0.02830	0.86898	No
	CC does not Cause CPI	3.07490	0.10304	→
Greece	CPI does not Cause CC	9.36353	0.00912	→
	CC does not Cause CPI	0.49042	0.49608	No
	CPI does not Cause GE	2.17818	0.16379	No
	GE does not Cause CPI	3.66782	0.07773	→

**Table 3:** Regression Results

Country	Dependent Variable	Independent Variable	Intercept	Slope	R <sup>2</sup>
UK	CPI	CC	5.19 (8.4)	1.59 (5.01)	0.62
	CC	CPI	-1.32 (-2.04)	0.39 (5.00)	0.63
	CPI	GE	2.9 ( 3.31 )	3 (5.81 )	0.70
France	CPI	RQ	5.50 ( 14.53 )	1.10 ( 3.12 )	0.39
China	CPI	GE	3.14 ( 68.94 )	1.47 ( 3.40 )	0.44
India	CPI	GE	3.41 (38.68)	0.25 ( 0.25)	0.004
Japan	CPI	RQ	5.74 (13.46)	1.48 (3.26)	0.41
	CPI	GE	4.48 (6.39)	2.03 (3.75)	0.48
Thailand	CPI	RL	3.45 (74.48)	-0.49 (-3.64)	0.46
S. Africa	CPI	CC	4.44 (33.61)	0.91 (3.13)	0.40
Greece	CC	CPI	-1.86 (-3.79)	0.51 ( 4.58)	0.58
	GE	CPI	2.67 (4.53)	2.55 (2.92)	0.37

Note: The parentheses indicate student's t values.

A bilateral causal link between CPI and CC is noticed in UK, index-value of CC increases by 1.59 units as CPI increases by one unit and CPI rises by 0.39 units as CC rises by one unit, and hence it has a multiplier effect so far as reduction in corruption is concerned in UK. GE causes strongly to the reduction of corruption in UK. In France, RQ is observed to be a most powerful indicator in reducing corruption whereas it is second most powerful indicator after GE in reducing of corruption in Japan. Governance indicator like GE plays an important role to push down the corruption in Japan. In China and India, GE is proactive as well as influencing indicator to curb corruption. The inverse relationship between RL and CPI in Thailand indicates that ongoing machineries related to RL is not complementary to the reduction of corruption; perhaps increase in state expenditure on corrupt judiciary system bracketed with corrupt enforcement officials become ineffective in pushing down the corruption level. The state machineries of CC in S. Africa are highly relevant to reduce the volume of corruption. In Greece, the variations of CPI positively influence the variations of CC and the indicator like GE is effective in controlling corruption as reflected by CPI.

## Conclusion

All the governance-indicators selected so far have failed to arrest their state level corruptions in USA, Germany and Brazil. Some of the indicators, as per our study, influence the values of CPI for the remaining countries. For example, a bilateral positive causal link between CPI and CC in UK shows a splendid result in curbing corruption as it has a multiplier effect too. In the developing nations, China, India, and S. Africa, GE and CC are the only effective indicators to abate corruption whereas in Thailand corruption increases as RL becomes tighten; perhaps caused by lack of reforms in judiciary and enforcement department in particular. In Japan, RQ and GE are effective indicators whereas only GE is effective component in Greece for the abatement of corruption. Epilogue suggests that performance of some of the indicators works well in controlling corruption in some nations; even some indicators work in negative directions in some nations. Probably radical reforms should be supplementary to the governance to be more vibrant for people's interest that saves state resources which could be allocated to national interest.



## References

- Acemoglu, D., Johnson, S. & Robinson, J. (2001). The Colonial Origins of Comparative Development, *American Economic Review*, 91 (5).
- Adeb, G.T. & Gupta, S. (Eds) (2002). Governance, Corruption and Economic Performance, IMF, Washington, D.C
- BEEPS (2008-2009). The Business Environment and Enterprise Performance Survey, published by The World Bank.
- Bradburn, N. (1983). "Response Effects" in handbook of Survey Research, Edited by P. Rossi, J. Wright and A. Anderson, New York, Academic Press
- Chetwynd, E., Chetwynd, F. & Spector, B. (2003). A Review of Recent Literature, Final Report, Management Systems International, Washington, DC
- Donchev, D & Ujhely, G. (2007). Do Corruption Indices measure Corruption? , Working Paper, Economics Department, Harvard University, March 25
- Duncan, N. (2006). The Non-Perception based Measurement of Corruption: A review of Issues and Methods from a Policy Perspective in measuring Corruption, Edited by J.G. Sampford, UK, Ashgate Publishing.
- EBRD (1999). European Bank for Reconstruction and Development: Ten years of Transition, London
- Emery, J. J. (2003). Global forum on International Investment, Johannesburg , South Africa, Government of South Africa, Encouraging Modern Governance and Transparency for Investment: Why and How? 17-18 November
- Francisco – Javier, U. (2007). Assessing Corruption An analytical review of Corruption measurement and its problems: Perception, Error and Utility, Edmund A. Walsh School of Foreign Service, Georgetown University
- Friedman, E., Johnson, S., Kaufmann, D., Zoido-Lobaton, P. (2000). Dodging the Grabbing Hands: Determinants of Unofficial Activities in 69 Countries, *Journal of Public Economics*, 69.
- Golden, M. & Picci, L. (2005). Proposal for new measure of corruption, illustrated with Italian data , *Economic and Political Weekly*, 17 (1).
- Granger, C.W.J. (1969). Investigating Causal Relations by Econometric Models and Cross Spectral Methods; *Econometrica*, 37(3), 424-438
- Guhan, S. & Paul, S. (1997). Corruption India: Agenda for Action, Vision Books, Delhi
- Hellman, J.G., Jones, G., Kaufmann, D. & Schankerman, M. (2000). Measuring Governance, corruption and State Capture: How Firms and Bureaucrats Shape the Business Environment in Transitional Economics, World Bank Policy Research Working paper No.2312
- Kauffman, D., A. Kraay & Zoido-Lobaton (1999a). Governance matters, World Bank policy working paper no. 2196, World Bank, Washington DC
- Kaufmann, D. Kraay, A. & Mastruzzi, M. (2006). Measuring Corruption: Myths and Realities, Development Outreach, September, 2006
- Kaufmann, D., Kraay, A. & Zoido-Lobaton, P. (1999b). Aggregating Governance Indicators, World Bank Policy Research Working Paper No.2195
- Kaufmann, D., Z & Kraay, A. (2007). On measuring Governance: Framing Issues for Debate, Issues paper for January, 2007, Roundtable on Measuring Governance, World Bank Institute and Development Economics Vice President of the World Bank
- Lambsdorff, J.G. (2006). The Validity and Precision of Subjective Indicators: The Corruption Perception Index in Measuring Corruption, Edited by J.G. Sampford, UK, Ashgata Publishing
- Mauro, P. (1995). Corruption and growth, *Quarterly Journal of Economics*, 110 (3), 681-712.

- Olkan, B. (2006). Corruption perception vs Corruption Reality, NBER working paper No. 12428    Rigobon, R & Rodrik, D. (2004). Rule of Law, Democracy, Openness and Income: Estimating Interrelationships, NBER Working paper No.10750
- Paul, S. (1997). Corruption: Who will bell the Cat? *Economic and Political Weekly*, 7 June